FIG.1

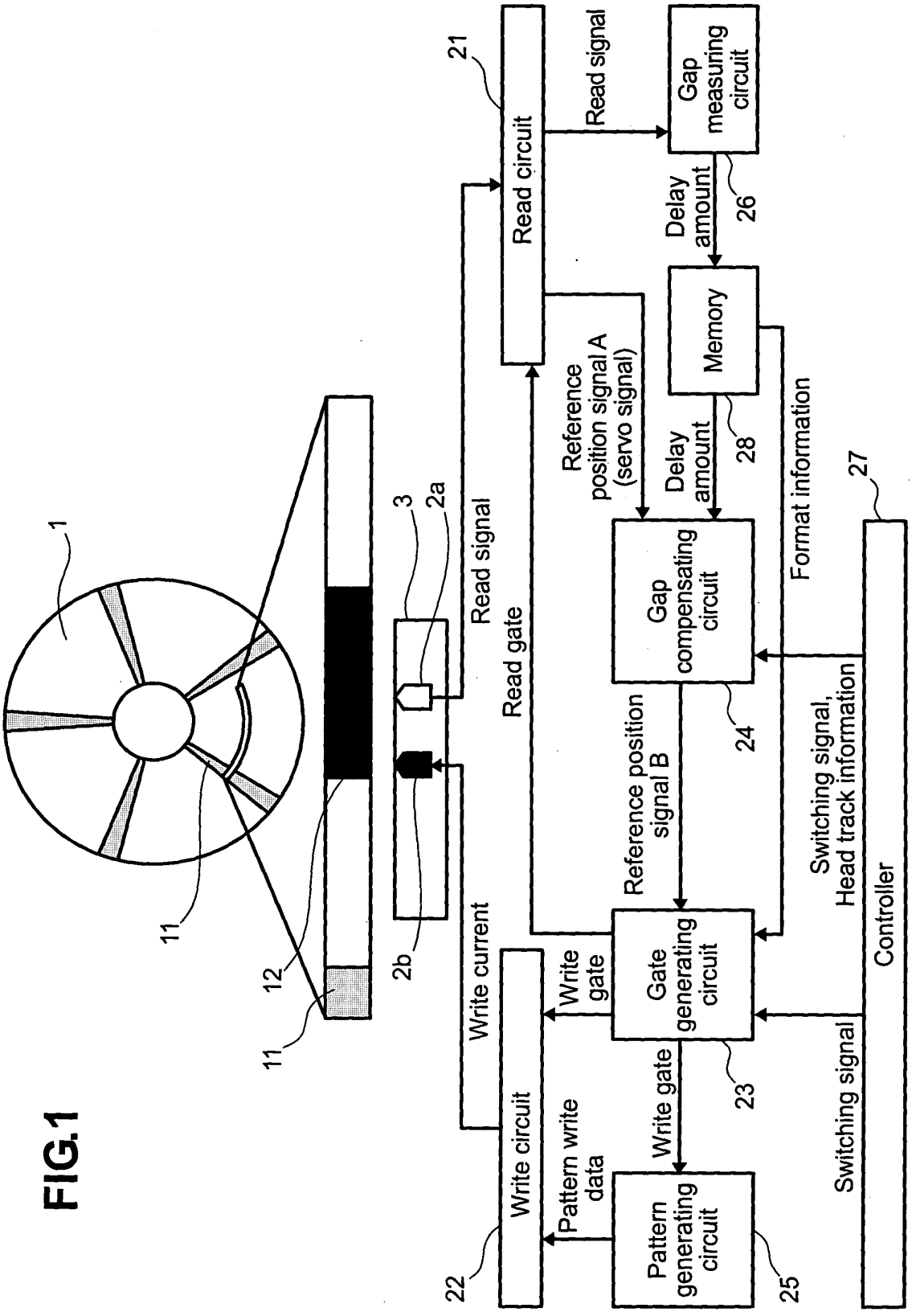

1
11
12
11
2b
3
2a
Read signal
Write current
Read gate
21
Read circuit
Read signal
Gap measuring circuit
Delay amount
26
Memory
Delay amount
28
Reference position signal A (servo signal)
Gap compensating circuit
24
Format information
27
Reference position signal B
Switching signal, Head track information
Controller
Write gate
Gate generating circuit
23
Switching signal
Write circuit
Pattern write data
Write gate
Pattern generating circuit
22
25

FIG.2

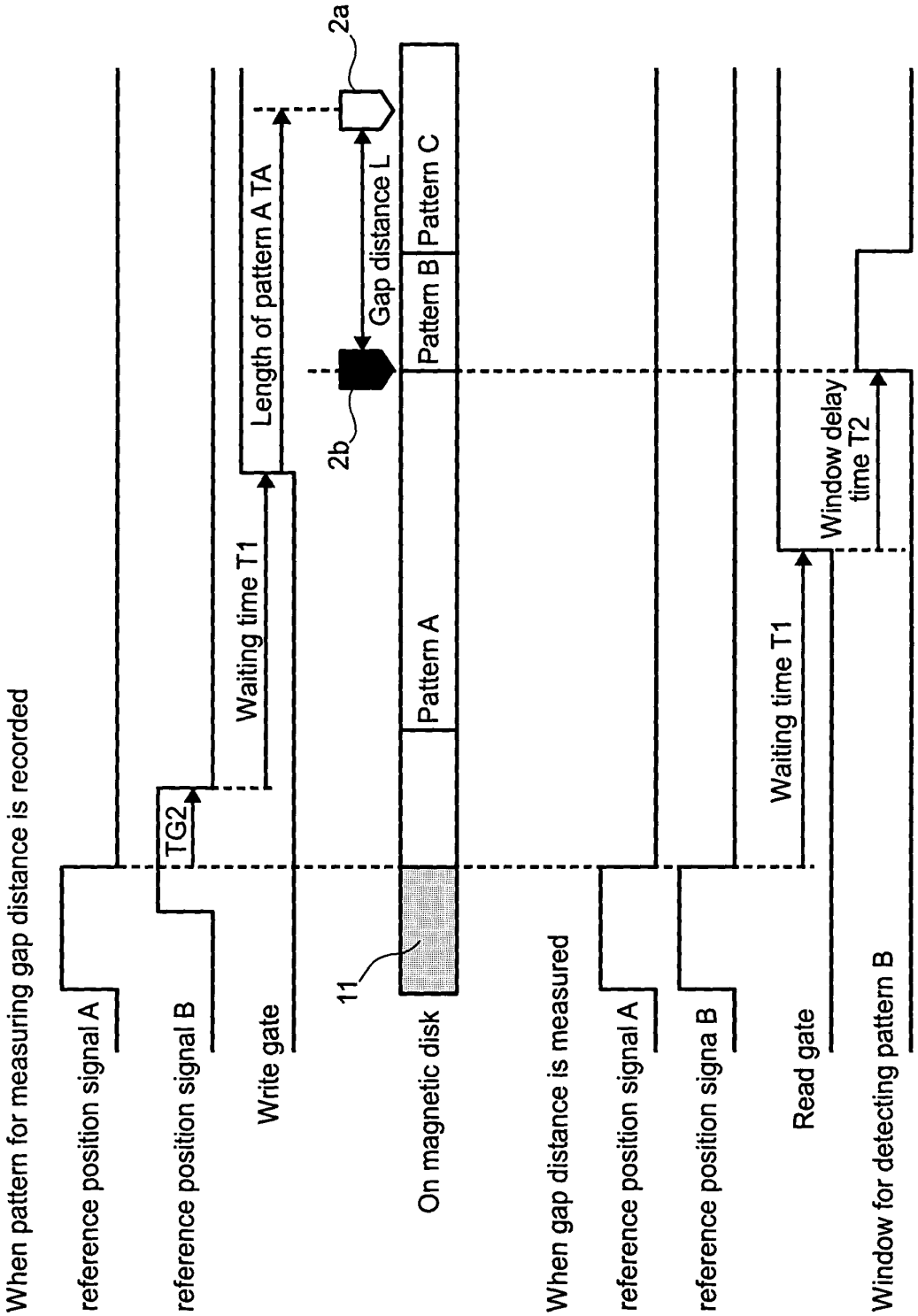

When pattern for measuring gap distance is recorded
reference position signal A
reference position signal B
Write gate
On magnetic disk
11
TG2
Waiting time T1
Length of pattern A TA
2a
2b
Gap distance L
Pattern A
Pattern B
Pattern C
When gap distance is measured
reference position signal A
reference position signa B
Read gate
Waiting time T1
Window delay time T2
Window for detecting pattern B

FIG.3

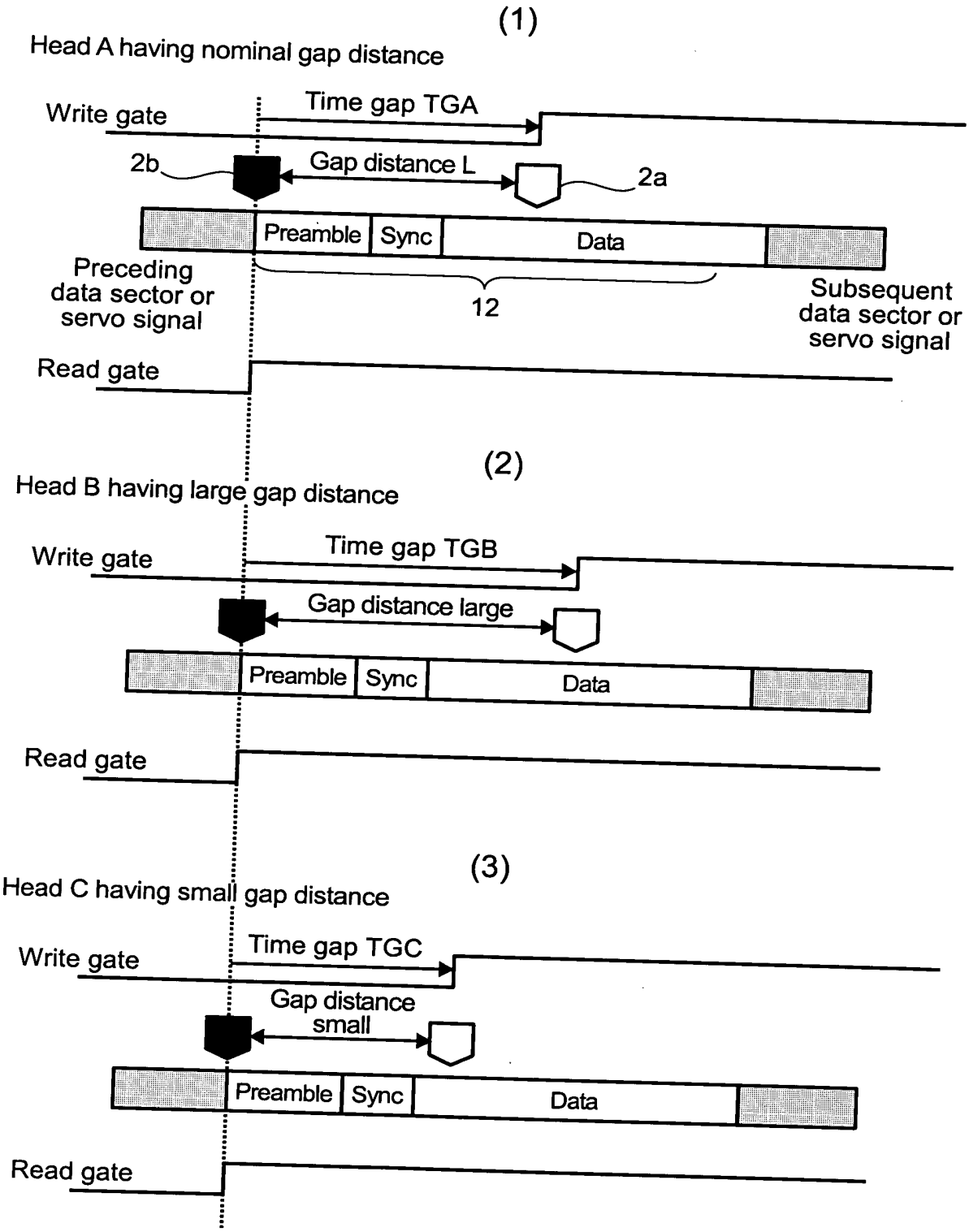

(1)
Head A having nominal gap distance
Write gate
Time gap TGA
2b
Gap distance L
2a
Preamble
Sync
Data
Preceding data sector or servo signal
12
Subsequent data sector or servo signal
Read gate
(2)
Head B having large gap distance
Write gate
Time gap TGB
Gap distance large
Preamble
Sync
Data
Read gate
(3)
Head C having small gap distance
Write gate
Time gap TGC
Gap distance small
Preamble
Sync
Data
Read gate

FIG.4

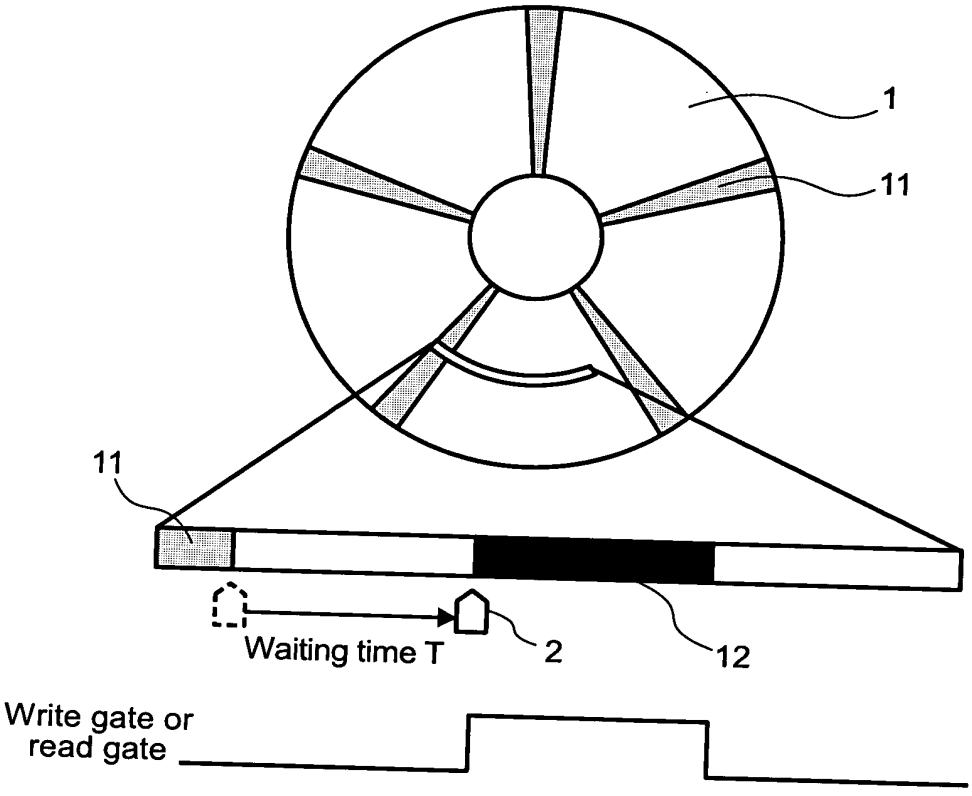


FIG.5

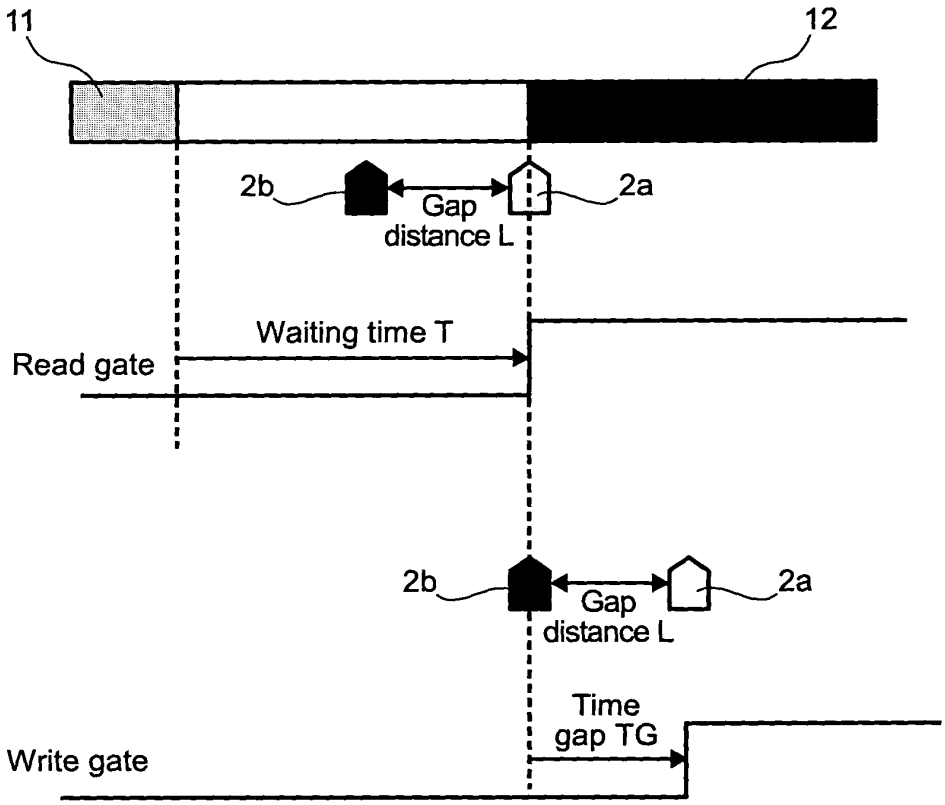
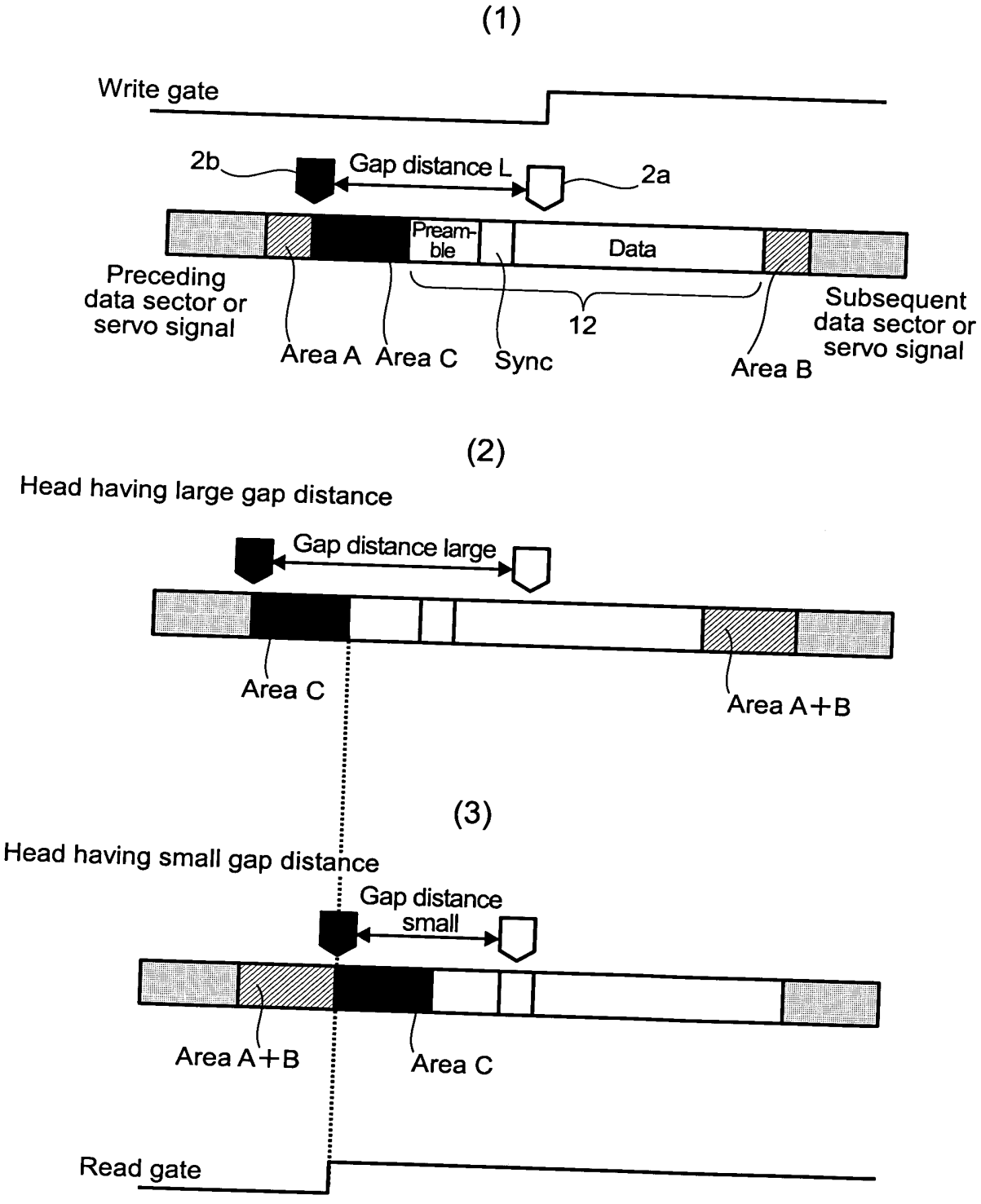

11
12
2b
Gap
distance L
2a
Waiting time T
Read gate
2b
Gap
distance L
2a
Time
gap TG
Write gate

FIG.6


(1)
Write gate
2b
Gap distance L
2a
Pream-
ble
Data
Preceding
data sector or
servo signal
Area A
Area C
Sync
12
Area B
Subsequent
data sector or
servo signal
(2)
Head having large gap distance
Gap distance large
Area C
Area A+B
(3)
Head having small gap distance
Gap distance
small
Area A+B
Area C
Read gate